

CLAIMS

What is claimed is:

1. A modular component set configurable to form a plurality of flight capable platforms, comprising:
 - a plurality of common end pieces each having a blunt attachment face;
 - a plurality of body members each having opposed ends adapted to connectably receive the blunt attachment face of one of the end pieces, and a generally rectangular shaped mid-portion having opposed walls; and
 - a plurality of task specific panels each releasably connectable to one of the opposed walls.
- 15 2. The modular component set of Claim 1, wherein at least one of the body members, at least two of the end pieces, and at least one of the task specific panels connected to one of the opposed walls forms a minimum component set for each of the flight capable platforms.
- 20 3. The modular component set of Claim 1, comprising at least one vertical propulsion device disposed in each of the body members.
4. The modular component set of Claim 1, comprising a horizontal propulsion device disposed in an aft one of at least one of the end pieces.
- 25 5. The modular component set of Claim 1, comprising a payload bay connectable between a pair of the body members, the payload bay having opposed exterior walls each connected to an inner facing wall of one of the opposed pair of the body members.

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6. The modular component set of Claim 5, comprising a spacer member connectable between one of a forward facing and an aft facing pair of the end pieces and to one of a forward facing and an aft facing end of the payload bay, respectively.

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7. The modular component set of Claim 1, wherein each of the task specific panels comprises:

a plate portion interfacing with the one opposed wall;
a structural support portion attachable to the plate portion;
10 a task specific item operably supported by the structural support portion; and

a dedicated portion adaptable to contain at least one of an electronics package, a control package, a power supply package, and a data storage package in communication with at least the task specific item.

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8. The modular component set of Claim 1, comprising:
a plurality of lift producing surfaces each connectable to at least one of the body members; and
a landing gear set connectable to one of the body member and the
20 end piece.

9. The modular component set of Claim 1, comprising a plurality of flight control surfaces connectable to one of the body members and the end pieces.

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10. A mobile platform having vertical propulsion capability and constructed from a plurality of modular components, comprising:

at least one body member having a forward facing end, an aft facing end, and a generally rectangular shaped mid-portion having opposed walls;

at least two end pieces each having an aerodynamically shaped tip portion and a blunt attachment face;

at least a forward facing one of the end pieces located at the blunt attachment face to one of the body member forward facing ends;

10 at least an aft facing one of the end pieces located at the blunt attachment face to one of the body member aft facing ends; and

at least one vertical propulsion device disposed in each of the body members.

15 11. The mobile platform of Claim 10, comprising at least a pair of task specific panels each releasably connectable to one of the opposed walls.

12. The mobile platform of Claim 10, comprising a horizontal propulsion device disposed in at least one of the aft facing end pieces.

20 13. The mobile platform of Claim 12, comprising a pair of the body members longitudinally joined between the aft facing end of a first one of the pair and the forward facing end of a second one of the pair.

25 14. The mobile platform of Claim 12, comprising two pairs of the body members, each pair longitudinally joined between the aft facing end of a first one of each pair and the forward facing end of a second one of each pair, two pairs arranged in parallel alignment.

15. The mobile platform of Claim 14, comprising
a payload bay connectable between the two pairs of the body
members;
a first spacer member connectable between the forward facing ones
5 of the end pieces of the two pairs; and
a second spacer member connectable between the aft facing ones
of the end pieces of the two pairs.
16. The mobile platform of Claim 11, comprising an opposed pair of
10 wings each connectable to one of the opposed walls.
17. The mobile platform of Claim 16, comprising a set of flight control
surfaces connectably disposed to the aft facing one of the end pieces.
- 15 18. The mobile platform of Claim 15, comprising an opposed pair of
wings each connectable to an outermost facing one of the opposed walls.
19. The mobile platform of Claim 18, comprising a set of flight control
surfaces connectably disposed to the aft facing one of the end pieces.

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20. A method for modularly constructing a mobile platform, comprising the steps of:

disposing a vertical propulsion system into a body section;
releasably fastening at least one task specific panel to the body

5 section;

installing a set of task associated control equipment in the task specific panel; and

mounting a wing pair to the body section.

10 21. The method of Claim 20, comprising:

connecting a first one of a plurality of rounded sections onto a forward facing end of the body section; and

attaching a second one of the rounded sections onto an aft facing end of the body section.

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22. The method of Claim 21, comprising disposing a horizontal propulsion system into the second one of the rounded sections.

23. The method of Claim 20, comprising:

20 longitudinally linking a plurality of the body sections to form a body side;

parallel aligning a pair of the body sides; and

installing a payload bay between the body sides.

25 24. The method of Claim 23, comprising:

connecting a first one of a plurality of rounded sections onto a forward facing end of each of the body sides; and

attaching a second one of the rounded sections onto an aft facing end of each of the body sides.

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25. The method of Claim 24, comprising:
 - attaching a first spacer section between the first ones of the rounded sections; and
 - connecting a second spacer section between the second ones of the rounded sections.
26. The method of Claim 20, comprising:
 - mounting a set of task specific equipment to the task specific panel;
 - and
 - communicatively linking the task specific equipment to the task associated control equipment.
27. The method of Claim 26, comprising switching between a plurality of task specific panels and a plurality of task specific equipment between individual flights of the mobile platform.